

FACT SHEET

as required by LAC 33:IX.3111 for major LPDES facilities, for draft Louisiana Pollutant Discharge Elimination System Permit No. LA0033014; AI 30578; PER20080001 to discharge to waters of the State of Louisiana as per LAC 33:IX.2311.

The permitting authority for the Louisiana Pollutant Discharge Elimination System (LPDES) is:

Louisiana Department of Environmental Quality
 Office of Environmental Services
 P. O. Box 4313
 Baton Rouge, Louisiana 70821-4313

- I. **THE APPLICANT IS:** City of Breaux Bridge
 Breaux Bridge Wastewater Treatment Facility
 101 Berard Street, City Hall
 Breaux Bridge, LA 70517

- II. **PREPARED BY:** Todd Franklin

- DATE PREPARED:** December 22, 2008

- III. **PERMIT ACTION:** reissue LPDES permit LA0033014, AI 30578; PER20080001

 LPDES application received: June 30, 2008

 EPA has not retained enforcement authority.

 Previous LPDES permit effective: January 1, 2004
 Previous LPDES permit expired: December 31, 2008

IV. FACILITY INFORMATION:

- A. The application is for the discharge of treated sanitary wastewater from a publicly owned treatment works serving the City of Breaux Bridge.

- B. The permit application does not indicate the receipt of industrial wastewater.

- C. The facility is located on Begnaud Street in Breaux Bridge, St. Martin Parish.

- D. The treatment facility consists of a three-cell oxidation pond operated in series followed by chlorination, dechlorination, and metering. The discharge is then distributed through five (5) alternating discharge points located along a 1,600 foot pipeline adjacent to the swamp.

- E. Outfall 001
 Discharge Location: Latitude 30° 15' 40" North
 Longitude 91° 54' 57" West

There is only one outfall, Outfall 001, with five (5) distribution points. Samples, excluding the wetland monitoring sampling, shall be taken after the last treatment unit and before entering the distribution system into the wetland area. The distribution points will be

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employed in any combination and rotation necessary to ensure uniform coverage and to maximize the assimilation potential and the productivity of the wetland. The discharge patterns shall be recorded and included in the Annual Wetland Monitoring Report.

Description: treated sanitary wastewater

Design Capacity: 1.27 MGD

Type of Flow Measurement which the facility is currently using: Rectangular weir – totalizing meter / continuous recorder

V. **RECEIVING WATERS:**

The discharge is into the Cypriere Perdue Swamp; thence into Ruth Canal in Subsegment 060805 of the Vermilion-Teche River Basin, defined at LAC 33:IX.1123. Table 3 as *Breaux Bridge Swamp-Forested wetland in St. Martin Parish, one-half mile southwest of Breaux Bridge, southeast of LA-94, west of Bayou Teche, east of Vermilion River, and north of Evangeline and Ruth Canals; also called Cypriere Perdue Swamp*. This Subsegment is not listed on the 303(d) list of impaired waterbodies.

The critical low flow (7Q10) of the Cypriere Perdue Swamp is 0 cfs.

The critical low flow (7Q10) of Ruth Canal is 8.2 cfs. (*Low Flow on Streams in Louisiana, March 2000*)

The designated uses and degree of support for Subsegment 060805 of the Vermilion-Teche River Basin are as indicated in the table below^{1/}:

Degree of Support of Each Use						
Primary Contact Recreation	Secondary Contact Recreation	Propagation of Fish & Wildlife	Outstanding Natural Resource Water	Drinking Water Supply	Shell fish Propagation	Agriculture
N/A	Full	Full	N/A	N/A	N/A	N/A

^{1/} The designated uses and degree of support for Subsegment 060805 of the Vermilion-Teche River Basin are as indicated in LAC 33:IX.1123.C.3, Table (3) and the 2006 Water Quality Management Plan, Water Quality Inventory Integrated Report, Appendix A, respectively.

VI. **ENDANGERED SPECIES:**

The receiving waterbody, Subsegment 060805 of the Vermilion-Teche River Basin, is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U. S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated October 24, 2007, from Boggs (FWS) to Brown (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. It was determined that the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat.

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VII. HISTORIC SITES:

The discharge is from an existing facility location, which does not include an expansion beyond the existing perimeter. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the 'Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits' no consultation with the Louisiana State Historic Preservation Officer is required.

VIII. PUBLIC NOTICE:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit modification and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation

Office of Environmental Services Public Notice Mailing List

For additional information, contact:

Mr. Todd Franklin
Permits Division
Department of Environmental Quality
Office of Environmental Services
P. O. Box 4313
Baton Rouge, Louisiana 70821-4313

IX. PROPOSED PERMIT LIMITS:

Louisiana Water Quality Integrated Report

Subsegment 060805 is not listed on LDEQ's Final 2006 Louisiana Water Quality Integrated Report as impaired, and to date no TMDL's have been established. A reopener clause will be established in the permit to allow for the requirement of more stringent effluent limitations and requirements as imposed by any future TMDLs.

Final Effluent Limits:

Outfall 001

In accordance with LAC 33:IX.1109.J.6 and the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standard, Water Quality Management Plan, Volume 3, the Department may allow the discharge of the equivalent of secondarily treated effluent into wetlands for the purposes of nourishing and enhancing those wetlands. According to LAC 33:IX.5911.A & B, the effluent quality attainable by facilities eligible for treatment equivalent to secondary treatment are 45

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mg/l BOD₅ monthly average / 65 mg/l BOD₅ weekly average and 45 mg/l TSS monthly average / 65 mg/l TSS weekly average. However, Alternative State Requirement (ASR) provisions are contained in 40 CFR §133.105(d). The ASR provision allows States the flexibility to set permit limits above the maximum levels of 45 mg/l monthly average and 65 mg/l weekly average for BOD₅ and TSS from lagoons meeting certain requirements. EPA published the approved ASRs in 49 FR 37005 on September 20, 1984. An alternate TSS Limit of 90 mg/l monthly average was approved for the State of Louisiana. According to LAC 33:IX.711.D, with respect to BOD₅, treatment equivalent to secondary treatment for oxidation ponds is defined as 30 mg/l monthly average / 45 mg/l weekly average. Therefore, these limitations will be included in the permit.

Final limits shall become effective on the effective date of the permit and expire on the expiration date of the permit.

Effluent Characteristic	Monthly Avg. (lbs./day)	Monthly Avg.	Weekly Avg.	Basis
BOD ₅	318	30 mg/l	45 mg/l	Limits are based on approved Treatment Equivalent to Secondary Treatment as allowed in the <i>Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, Water Quality Management Plan, Volume 3</i> for discharges of sanitary wastewater into an approved wetland.
TSS	953	90 mg/l	135 mg/l	
Magnesium, Total	Report	Report (mg/l)	Report (mg/l)	In conjunction with the Wetland System Monitoring Requirements of the permit, "Report" for the listed metals has been proposed for this permit based on Best Professional Judgement (BPJ).
Lead, Total	Report	Report (mg/l)	Report (mg/l)	
Cadmium, Total	Report	Report (mg/l)	Report (mg/l)	
Chromium, Total	Report	Report (mg/l)	Report (mg/l)	
Copper, Total	Report	Report (mg/l)	Report (mg/l)	
Zinc, Total	Report	Report (mg/l)	Report (mg/l)	
Iron, Total	Report	Report (mg/l)	Report (mg/l)	
Nickel, Total	Report	Report (mg/l)	Report (mg/l)	
Silver, Total	Report	Report (mg/l)	Report (mg/l)	
Selenium, Total	Report	Report (mg/l)	Report (mg/l)	
Total Nitrogen	Report	Report (mg/l)	Report (mg/l)	Values obtained will be used to calculate long term wetland loading rates.
Total Phosphorus	Report	Report (mg/l)	Report (mg/l)	

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Other Effluent Limitations:**1) Fecal Coliform**

The discharge from this facility is into a water body (wetland), which has a designated use of Secondary Contact Recreation. However, Primary Contact Recreation limits of 200/100 ml (Monthly Average) and 400/100 ml (Weekly Average) are proposed as Fecal Coliform limits in the permit. These limits are being proposed through Best Professional Judgment as an added measure for public safety, and due to the fact that existing facilities have demonstrated an ability to comply with these limitations using present available technology.

2) pH

According to LAC 33:IX.3705.A.1., POTW's must treat to at least secondary levels. Therefore, in accordance with LAC 33:IX.5905.C, the pH shall not be less than 6.0 standard units nor greater than 9.0 standard units at any time.

3) Solids and Foam

There shall be no discharge of floating solids or visible foam in other than trace amounts in accordance with LAC 33:IX.1113.B.7.

4) Toxicity Characteristics

In accordance with EPA's Region 6 Post-Third Round Toxics Strategy, permits issued to treatment works treating domestic wastewater with a flow (design or expected) greater than or equal to 1 MGD shall require biomonitoring at some frequency for the life of the permit or where available data show reasonable potential to cause lethality, the permit shall require a whole effluent toxicity (WET) limit (*Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards*, September 27, 2001 VERSION 4).

Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates the effects of synergism of the effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. LAC 33:IX.1121.B.3. provides for the use of biomonitoring to monitor the effluent for protection of State waters. The biomonitoring procedures stipulated as a condition of this permit are as follows:

The permittee shall submit the results of any biomonitoring testings performed in accordance with the LPDES Permit No. LA0033014, **Biomonitoring Section** for the organisms indicated below.

FREQUENCY

48 Hour Definitive Toxicity Test using <u>Daphnia pulex</u>	1/year ¹
48 Hour Definitive Toxicity Test using fathead minnow (<u>Pimephales promelas</u>)	1/year ¹

¹ In accordance with the LDEQ/OES Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, Water Quality Management Plan Volume 3, Version 6 (April 16, 2008), discharge to a wetland will require annual acute biomonitoring

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Dilution Series - The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional concentrations shall be 32%, 42%, 56%, 75%, and 100%. The low-flow effluent concentration (critical low-flow dilution) is defined as 100% effluent. Results of all dilutions shall be documented in a full report according to the test method publication mentioned in the **Biomonitoring Section** under Whole Effluent Toxicity. This full report shall be submitted to the Office of Environmental Compliance as contained in the Reporting Paragraph located in the **Biomonitoring Section** of the permit.

The permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.2383. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

5) Wetland System Monitoring

The five (5) year LPDES permit contains technology-based effluent limitations for BOD₅, TSS, and pH reflecting the best controls available. Additional water quality-based effluent limitations and/or conditions are included in the LPDES permit. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other available toxicity information to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls.

The state has established a narrative water quality criterion, which states that:

"No substances shall be present in the waters of the state or the sediments underlying said waters in quantities that alone or in combination will be toxic to human, plant, or animal life or significantly increase health risks due to exposure to the substances or consumption of contaminated fish or other aquatic life." (*Louisiana Surface Water Quality Standards*, LAC Title 33, Part IX, Chapter 11, Section 1113.B.5.)

However, the State of Louisiana has set the following specific criteria (LAC 33:IX.1113.B.12) for protection of the receiving Natural Wetlands (Cypriere Perdue Swamp):

- **Wetland biological integrity will be guided by above-ground wetland vegetative productivity with consideration given to floral diversity. Due to effluent addition, the discharge area of a wetland shall have no more than a 20 percent reduction in the rate of total above-ground wetland productivity over a five-year period as compared to a reference area.**

EPA document *Biological Criteria: National Program Guidance for Surface Waters*, discusses the Clean Water Act and states that "the general authority for biological criteria comes from Section 101(a) of the Act which establishes as the objective of the Act, the restoration and maintenance of the chemical, physical, and biological integrity of the Nation's waters, including natural wetlands. To meet this objective, water quality criteria must include criteria to protect biological integrity. Section 101(a)(2) includes the interim water quality goal for the protection and propagation of fish, shellfish, and wildlife." Biological integrity is functionally defined in this EPA manual as "the condition of the aquatic community inhabiting the unimpaired waterbodies of a specified habitat as measured by community structure and function." The importance and function of wetlands include, but are not limited to the following: erosion and flood control, saltwater intrusion control, water quality enhancement, habitat for threatened and endangered species, wildlife habitat, nutrient material cycling, recreation and aesthetics.

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Natural wetland loss is a problem in Louisiana. This problem is caused, in part, by insufficient sedimentation and relative sea level rise each year. The introduction of nutrient rich wastewater to natural wetlands is beneficial in that it stimulates productivity in the wetland. This productivity promotes vertical accretion through increased organic matter deposition and the formation of soil through increased root growth. This vertical accretion helps maintain the wetlands, despite the rising water levels. Additionally, the total suspended solids, provided by the wastewater, also increase the sediment level in the wetland.

Although the introduction of wastewater into natural wetlands renders benefits to the wetland system, changes to the system will occur. Therefore, it is important to address issues, which will indicate the extent of these changes and to determine if the changes are acceptable.

In addition to the standard biomonitoring which is proposed in this permit, the biological monitoring schedule proposed below is broader in scope, and more specific to the wetland ecosystem, than standard biomonitoring. It will provide a more direct indication of change in functions of the wetland system as a whole. The proposed biological monitoring schedule for the City of Breaux Bridge / Cypriere Perdue Swamp Wastewater Assimilation Project is based on Best Professional Judgement (BPJ), taking into account the size and characteristics of the wetland system.

The following parameters are proposed to be sampled and monitored for the specified wetland component at three (3) monitoring sites within the Discharge Area and two (2) monitoring sites within the Reference Area. The Discharge Area is defined as the area of wetlands directly affected by effluent addition, and is inclusive of the delineated assimilation area. The Reference Area is defined as wetland area that is nearby and similar to the discharge area, but that is not affected by effluent addition. The three monitoring sites within the Discharge Area shall be located (1) 100 meters from the discharge point, (2) midway, and (3) at the point where water leaves the assimilation area.

SPECIES CLASSIFICATION

Within the three Discharge Area sites and within the two (2) Reference Area sites, three or more 10 x 100 m quadrates should be established. These plots must be oriented perpendicular to the hydrological gradient. All trees within these subplots with a diameter at breast height (dbh) greater than 3.2 cm should be tagged with an identification number.

The relative importance of each major tree species in both the Discharge and Reference Areas will be based on the density (total number), dominance (basal area), and frequency of occurrence in each of the plots using equations 1-4 (Barbour et al. 1987).

- | | |
|--|-----|
| Relative density = (individuals of a species)/(total individuals of all species) | (1) |
| Relative dominance = (total basal area of a species)/(total basal area of all species) | (2) |
| Relative frequency = (frequency of species)/(total frequency of all species in area) | (3) |
| Importance Value = Relative density + Relative dominance + Relative Frequency | (4) |

PERCENTAGE OF WHOLE COVER and GROWTH STUDIES

Productivity of a forested wetland is defined as the sum of stem growth (perennial productivity) and leaf and fruit fall (ephemeral productivity). Above-ground net primary productivity (NPP) should be calculated as the sum of ephemeral and perennial productivity, and presented as live dry weight per square meter per year basis ($g/m^2/yr$).

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Perennial productivity should be calculated using diameter at breast height (dbh) measurements of all trees with dbh greater than 3.2 cm within the subplots defined above. Measurements of dbh should be taken during two consecutive winters when trees are dormant, and biomass calculated using allometric equations (Megonigal et al. 1997; Scott et al. 1985). The following steps should be used to calculate perennial productivity:

- Estimate biomass (in kg) from dbh using allometric equations (see Table 1 below).
- Sum biomass per study site and divide by area (in kg/m²) of the study site. This calculates the biomass per unit area (kg/m²) for each year and study site.
- Subtract Year 1 biomass (kg/m²) from Year 2 biomass, and multiply by 1000. This calculates the perennial productivity as g/m²/yr.

Table 1. Regression equations used to convert diameter at breast height (DBH) measurements to overall perennial biomass. All equations are in the form: Biomass = f(DBH), where biomass is in kg, DBH is in cm and f is the parameterized function.

Species	Biomass f(D)	DBH Range	Reference
<i>Fraxinus spp.</i>	Biomass (kg) = ((2.669*((DBHcm*0.394) ^{1.16332}))*0.454	>10 cm	Megonigal et al. '97
<i>Taxodium distichum</i>	Biomass (kg) = 10 ^{(-0.97+2.34*LOG10(DBHcm))}	>10 cm	Megonigal et al. '97
<i>Nyssa aquatica</i>	Biomass (kg) = 10 ^{(-9.19+2.291*LOG10(DBHcm))}	>10 cm	Megonigal et al. '97
<i>Acer rubrum</i>	Biomass (kg) = ((2.39959*((DBHcm*0.394) ²) ^{1.2003}))*0.454	10-28 cm	Megonigal et al. '97
<i>Quercus nigra</i>	Biomass (kg) = ((3.15067*((DBHcm*0.394) ²) ^{1.21955}))*0.45	10-28 cm	Megonigal et al. '97
	Biomass (kg) = ((5.99898*((DBHcm*0.394) ²) ^{1.08527}))*0.45	>28 cm	Megonigal et al. '97
<i>Salix spp.</i>	Biomass (kg) = 10 ^{(-1.5+2.78*LOG10(DBHcm))}	n.a.	Scott et al. 1985
Other Species	Biomass (kg) = ((2.54671*((DBHcm*0.394) ²) ^{1.20138}))*0.45	10-28 cm	Megonigal et al. '97
	Biomass (kg) = ((1.80526*((DBHcm*0.394) ²) ^{1.27313}))*0.45	>28 cm	Megonigal et al. '97

Ephemeral productivity should be measured using 0.25 m² leaf litter boxes, with screened bottoms and approximately 10 cm wide sides. Six boxes should be placed randomly in each of the 10 x 100 m quadrates within the Discharge Area and Reference Area. Leaves and other materials that collect in the boxes should be gathered bimonthly, separated into leaves and woody material, dried to a constant weight, and weighed. Ephemeral productivity should be calculated by summing the dried weight of leaves from each box over one year and extrapolating to g/m²/yr.

Net Primary Production: Aboveground net primary production (NPP) will be calculated as the sum of leaf litter and wood protection, and will be given in g/m²/yr.

WATER STAGE

Water stage is a gauged measurement of the water depth, which will assist in determining stress in the wetlands from hydrologic loadings and will determine the existence of a zone of influence resulting from wastewater applications. The zone around the discharge serves to assimilate the wastewater most effectively. This zone grows larger as wastewater continues to be discharged and the assimilative capacity of the immediate area becomes saturated. The water stage at set points within each of the three (3) Discharge Area sites and the two (2) Reference Area sites shall be measured monthly.

METALS, NUTRIENT I, NUTRIENT II, AND OTHER ANALYSIS

Samples of the flora, sediment, and surface water at each of the three (3) Discharge Area sites and the two (2) Reference Area sites shall be collected and analyzed for the following metals and nutrients: Magnesium, Lead,

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Cadmium, Chromium, Copper, Zinc, Iron, Nickel, Silver, Selenium, Total Kjeldahl Nitrogen, and Total Phosphorus.

Samples of the sediment and surface water at each of the three (3) Discharge Area sites and the two (2) Reference Area sites shall be collected and analyzed for the following nutrients: Ammonia-Nitrogen, Nitrite Nitrogen, Nitrate Nitrogen, and Phosphate.

Samples of the surface water at each of the three (3) Discharge Area sites and the two (2) Reference Area sites shall be collected and analyzed for the following parameters: Biochemical Oxygen Demand (BOD₅), Total Suspended Solids, pH, and Dissolved Oxygen.

- **Metals and nutrient data from plant tissue samples** will identify excesses or deficiencies that could become problematic.
- **Sediment analysis for metals and nutrients** will indicate whether or not metals are bound and buried in the sediments, and nutrients assimilated.
- **Corresponding analysis of surface water** must be made to provide a comparison of water quality in the vicinity of the discharge and at increasing distance from it.

Sampling procedures to be used during the wetland monitoring phase.

Water quality analyses must be conducted according to test procedures approved under 40 CFR Part 136.

For soils/sediments, sample preservation, handling, and analysis must meet the specifications of the Test Methods for Evaluating Solid Waste Physical/Chemical Methods, third edition (EPA Publication Number SW-846, 1986, or most recent revision) or an equivalent substitute as approved by the administrative authority.

ACCRETION RATES

Accretion rates will provide an indication of the how the effluent is contributing sediment and organic matter into the wetland area. Feldspar markers will be laid on the wetland surface in each of the three (3) Discharge Area sites and the two (2) Reference Area sites, with each plot having three 0.25 m² subplots where 1 cm thick powdered feldspar clay will be placed (Cahoon and Turner 1989). The subplots will be marked at each corner with PVC poles. Every four years, the thickness of material deposited on top of the feldspar marker at one subplot of each plot will be measured destructively by taking a 20 cm x 20 cm plug using a shovel or trowel, cleanly slicing the core into several sections to reveal the horizon, then measuring the thickness of material above the surface of the horizon at 10 different locations. The rate of vertical accretion will be calculated by dividing the mean thickness of material above the surface of the horizon by the amount of time the horizon had been in place.

Based on the results from a number of wetland assimilation sites in Louisiana, we conclude that the benthic and nekton community sampling is not likely to provide relevant data for the monitoring program. Therefore, benthic monitoring will no longer be included as part of wetland assimilation permits.

Compared to data from the Use Attainability Analysis and the previous wetland monitoring reports, the effects of the discharge on the biological integrity (as defined above) may be accurately assessed.

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The permittee shall submit the results of any wetland monitoring testing performed in accordance with the LPDES Permit Number LA0033014, Part II, Section D, shown in the table below:

PARAMETER	WETLAND COMPONENT		
	FLORA	SEDIMENT	SURFACE WATER
Species Classification	P		
Percentage of Whole Cover (for each species)	P		
Growth Studies	A ₁		
Water Stage			M
Metals Analysis: Mg, Pb, Cd, Cr, Cu, Zn, Fe, Ni, Ag, Se	P ₁	P ₁	P
Nutrient Analysis I: TKN, TP	P _{1,2}	P _{1,2}	S
Nutrient Analysis II: NH ₃ N, NO ₂ N, NO ₃ N, PO ₄		P ₁	S
Others: BOD ₅ , TSS, pH, Dissolved Oxygen			P ₁
Accretion Rate		P	

Water quality will be monitored by taking water samples along the path of flow of the effluent in the assimilation site and from one or more control sites.

Sampling in the **DISCHARGE AREA** must be conducted as follows:

Collection of a minimum of three samples per site in each of three sites: 1) approximately 100' from the discharge point (treatment site), 2) midway (mid site), and 3) at a point near where the water leaves the assimilation wetland (out site).

EXCEPTION: Only one sample per site in each of the three sites for those samples collected quarterly.

Sampling for the **REFERENCE AREA** must be conducted as follows:

Collection of a minimum of three samples in the reference area. All three samples will be taken from a site or sites similar to the wastewater management area in the receiving stream.

EXCEPTION: Only one sample per site in the reference area for those samples collected quarterly.

A: **ANNUALLY.** Sample once per year at all three (3) **DISCHARGE AREA** sites and the two (2) **REFERENCE AREA** sites and included in the yearly report.

A₁ – Stem growth and litter fall

M: **MONTHLY.** Samples should be taken at all three (3) **DISCHARGE AREA** sites and two (2) **REFERENCE AREA** sites each month and included in the yearly report.

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P: **PERIODICALLY.** Sampling must be made once during September through November in the fourth year of the permit period for all three (3) DISCHARGE AREA sites and the two (2) REFERENCE AREA sites.

P₁- Sample preservation, handling, and analysis must meet the specifications of the Test Methods for Evaluating Solid Waste Physical/Chemical Methods, third edition (EPA Publication Number SW-846, 1986, or most recent revision) or an equivalent substitute as approved by the administrative authority.

P₂- Sampling to be conducted in summer to reflect peak growth.

S: **SEMI-ANNUALLY.** Sampling (once sample collected per site) must be made every six months annually for all three (3) DISCHARGE AREA sites and the two (2) REFERENCE AREA sites.

If loading rates exceed 15 g/m²/yr total nitrogen or 4 g/m²/yr total phosphorus, then either the loading rates must be reduced or the assimilation area must be increased.

Example Calculation for Determining the Nutrient Loading Rates for Wetland Assimilation:

4 g TP/m²/yr = 35.6 lbs. TP/acre/yr
 15 g TN/m²/yr = 133.8 lbs. TN/acre/yr

Loading Rate for Total Phosphorus:

Discharging to 3,650 acres, then the yearly loading rate is:
 (35.6 lbs. TP/acre/year) x 3,650 acres = 129,940 lbs. TP/year

The long term average daily loading rate is:
 (129,940 lbs. TP/year) / 365 days/year = 356 lbs. TP/day

The daily maximum discharge loading rate is:
 (356 lbs. TP/day) x 3.11 = 1,107.16 lbs. TP/day

The maximum 30-day discharge is:
 (356 lbs. TP/day) x 1.31 = 466.36 lbs. TP/day

Loading Rate for Total Nitrogen:

Discharging to 3,650 acres, then the yearly loading rate is:
 (133.8 lbs. TN/acre/year) x 3,650 acres = 488,370 lbs. TN/year

The long term average daily loading rate is:
 (488,370 lbs. TN/year) / 365 days/year = 1,338 lbs. TN/day

The daily maximum discharge loading rate is:
 (1,338 lbs. TN/day) x 3.11 = 4,161.18 lbs. TN/day

The maximum 30-day discharge is:
 (1,338 lbs. TN/day) x 1.31 = 1,752.78 lbs. TN/day

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Suggestions for sampling during the wetland monitoring phase can be found in *The Use of Louisiana Swamp Forests for Application of Treated Municipal Wastewater: Standard Operating Procedures for Monitoring the Effects of Effluent Discharge*. John W. Day, Jr., Joel Lindsey, Jason N. Day, and Robert R. Lane, Comite Resources, Inc. Used with the permission of Dr. John W. Day, Jr., March 14, 2003.

X. PREVIOUS PERMITS:

LPDES Permit No. LA0033014: Effective: January 1, 2004
Expired: December 31, 2008

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	<u>Monthly Avg.</u>	<u>Weekly Avg.</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
<u>Outfalls 001</u>				
Flow	Report	Report	Continuous	Recorder
BOD ₅	318 lb/day / 30 mg/l	45 mg/l	2/week	6 Hour Composite
TSS	953 lb/day / 90 mg/l	135 mg/l	2/week	6 Hour Composite
Fecal Coliform				
Colonies/100 ml	200	400	2/week	Grab
pH	Range (6.0 su – 9.0 su)		2/week	Grab
Priority Pollutants	---	Report	1/year	24 Hour Composite

Wetland Monitoring was required in the previous permit.

XI. ENFORCEMENT AND SURVEILLANCE ACTIONS:**A) Inspections**

A review of the files indicates the following most recent inspection performed for this facility.

Date – December 13, 2006

Inspector – LDEQ

Findings and/or Violations –

- Permit is up to date and expires 12/31/2008.
- Sampling and reporting is being done as required. No excursions noted during DMR review. Self monitoring data was consistent with DMRs.
- Effluent was light brown and slightly turbid.
- Flow meter was 6.65% in error.
- Pond levees appeared structurally sound.

B) Compliance and/or Administrative Orders

A review of the files indicates that no recent enforcement action has been administered against this facility.

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C) DMR Review

A review of the discharge monitoring reports for the period beginning July 2006 through June 2008 has revealed the following violations:

Parameter	Outfall	Period of Excursion	Permit Limit	Reported Quantity
BOD ₅ , Weekly Avg.	001	December 2006	45 mg/l	46 mg/l
BOD ₅ , Monthly Avg.	001	June 2008	30 mg/l	37 mg/l
BOD ₅ , Weekly Avg.	001	June 2008	45 mg/l	48 mg/l

XII. ADDITIONAL INFORMATION:**Recopener Clause**

The Louisiana Department of Environmental Quality (LDEQ) reserves the right to impose more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving water bodies based upon additional water quality studies and/or TMDLs. The LDEQ also reserves the right to modify or revoke and reissue this permit based upon any changes to established TMDLs for this discharge, or to accommodate for pollutant trading provisions in approved TMDL watersheds as necessary to achieve compliance with water quality standards. Therefore, prior to upgrading or expanding this facility, the permittee should contact the Department to determine the status of the work being done to establish future effluent limitations and additional permit conditions.

In accordance with LAC 33:IX.2903., this permit may be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitations issued or approved under sections 301(b)(2)(c) and (D); 304(b)(2); and 307(a)(2) of the Clean Water Act, if the effluent standard or limitations so issued or approved:

- a) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
- b) Controls any pollutant not limited in the permit; or
- c) Requires reassessment due to change in 303(d) status of waterbody; or
- d) Incorporates the results of any total maximum daily load allocation, which may be approved for the receiving water body.

Mass Loadings Calculations

Final effluent loadings (i.e. lbs/day) have been established based upon the permit limit concentrations and the design capacity of 1.27 MGD.

Effluent loadings are calculated using the following example:

$$\text{BOD}_5: 8.34 \text{ gal/lb} \times 1.27 \text{ MGD} \times 30 \text{ mg/l} = 318 \text{ lbs/day}$$

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Monitoring Requirements

At present, the Monitoring Requirements, Sample Types, and Frequency of Sampling as shown in the permit are standard for facilities of flows between 1 MGD and 5 MGD.

<u>Effluent Characteristics</u>		<u>Monitoring Requirements</u>	
		<u>Measurement Frequency</u>	<u>Sample Type</u>
<u>Outfalls 001</u>			
Flow		Continuous	Recorder
BOD ₅		2/week	6 Hr. Composite
Total Suspended Solids		2/week	6 Hr. Composite
Fecal Coliform Bacteria		2/week	Grab
pH		2/week	Grab
Biomonitoring	<u>Daphnia pulex</u>	1/year	24 Hr. Composite
	<u>Pimephales promelas</u>	1/year	24 Hr. Composite
Wetland Monitoring		see Wetland System Monitoring	

Pretreatment Requirements

Based upon consultation with LDEQ pretreatment personnel, general pretreatment language will be used due to the lack of either an approved or required pretreatment program.

Pollution Prevention Requirements

The permittee shall institute or continue programs directed towards pollution prevention. The permittee shall institute or continue programs to improve the operating efficiency and extend the useful life of the facility. The permittee will complete an annual Environmental Audit Report **each year** for the life of this permit according to the schedule below. The permittee will accomplish this requirement by completing an Environmental Audit Form which has been attached to the permit. All other requirements of the Municipal Wastewater Pollution Prevention Program are contained in Part II of the permit.

The audit evaluation period is as follows:

Audit Period Begins	Audit Period Ends	Audit Report Completion Date
Effective Date of Permit	12 Months from Audit Period Beginning Date	3 Months from Audit Period Ending Date

Stormwater Discharges

Because the design flow of the treatment facility is equal to or greater than 1.0 MGD and in accordance with LAC 33:IX.2511.B.14.i, the facility may contain storm water discharges associated with industrial activity. Therefore, in accordance with LAC 33:IX.2511.A.1.b, specific requirements addressing stormwater discharges will be included in the discharge permit.

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XIII TENTATIVE DETERMINATION:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to reissue a permit for the discharge described in this Statement of Basis.

XIV REFERENCES:

Louisiana Water Quality Management Plan / Continuing Planning Process, Vol. 8, "Wasteload Allocations / Total Maximum Daily Loads and Effluent Limitations Policy," Louisiana Department of Environmental Quality, 2007.

Louisiana Water Quality Management Plan / Continuing Planning Process, Vol. 5, "Water Quality Inventory Section 305(b) Report," Louisiana Department of Environmental Quality, 2006.

Louisiana Water Quality Management Plan / Continuous Planning Process, Vol. 3, "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards," Louisiana Department of Environmental Quality, 2008.

Louisiana Administrative Code, Title 33 - Environmental Quality, Part IX - Water Quality Regulations, Chapter 11 - "Louisiana Surface Water Quality Standards," Louisiana Department of Environmental Quality, 2008.

Louisiana Administrative Code, Title 33 - Environmental Quality, Part IX - Water Quality Regulations, Subpart 2 - "The LPDES Program," Louisiana Department of Environmental Quality, 2008.

Low-Flow on Streams in Louisiana, Louisiana Department of Environmental Quality, March 2000.

Index to Surface Water Data in Louisiana, Water Resources Basic Records Report No. 17, United States Department of the Interior, Geological Survey, 1989.

A Use Attainability Analysis of Long-term Wastewater Discharge on the Cypriere Perdue Forested Wetland at Breaux Bridge, J. Day, A.M. Breaux, S. Feagley, P. Kemp of the Coastal Ecology Institute and Department of Agronomy, Louisiana State University and C. Courville of Domingue, Szabo & Associates, Inc., March 1994.

LPDES Permit Application to Discharge Wastewater, City of Breaux Bridge, Breaux Bridge Wastewater Treatment Facility, June 30, 2008.